Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte KENNETH FRANCIS and ALFONS HAERTL

Appeal No. 2001-0463
Application No. 09/250,863

ON BRIEF

Before CALVERT, FRANKFORT, and NASE, Administrative Patent Judges.

NASE, Administrative Patent Judge.

## DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 10, which are all of the claims pending in this application.

We REVERSE.

## BACKGROUND

The appellants' invention relates to a configuration for triggering restraining devices in a motor vehicle (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

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| Gille | 5,468,013 | Nov. 21, 1995 |
| Damisch | 5,809,439 | Sep. 15, 1998 |

Claims 1 to 9 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gille.

Claim 10 stands rejected under 35 U.S.C. § 103 as being unpatentable over Gille in view of Damisch.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the answer (Paper No. 15, mailed October 2, 2000) for the examiner's complete reasoning

in support of the rejections, and to the brief (Paper No. 14, filed August 7, 2000) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

**The anticipation rejection**

We will not sustain the rejection of claims 1 to 9 under 35 U.S.C. § 102(e).

To support a rejection of a claim under 35 U.S.C. § 102(e), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Claim 1, the sole independent claim on appeal, reads as follows:

A configuration for triggering restraining devices, comprising:

a sensor device having two acceleration sensors with differently orientated sensitivity axes and outputting acceleration signals said sensor device also having a rotational movement sensor for detecting rotational movements about a vertical axis of a vehicle and outputting a rotational movement signal;

an evaluation circuit for receiving and evaluating said acceleration signals and said rotational movement signal generated by said sensor device and outputting an evaluation signal; and

a triggering circuit receiving said evaluation signal from said evaluation circuit for generating a triggering signal for a restraining device, said triggering signal generated in dependence on said acceleration signals and said rotational movement signal.

Gille discloses an inflatable vehicle passenger restraint system having an inner and an outer air bag which are both coupled to a manifold which provides inflation gas produced by a gas generator. When the gas generator is activated, inflation gas quickly inflates the smaller inner air bag and simultaneously inflates the outer air bag at a slightly slower rate, thereby more fully protecting an out of position occupant by filling the outer air bag with a relatively slow fill rate as compared to the inner air bag. Gille's inflatable restraint system preferably includes a control

arrangement for controlling the deflation rate of at least one of the inner and outer air bags.

Figure 6 of Gille schematically illustrates an embodiment including a crash sensor 72, a triaxial accelerometer, including first, second and third motion sensing means 84, 86 and 88
for detecting motion along each of the X, Y and Z axes, respectively, controller means 76 for controlling the inflation and deflation of the inner and outer air bags and actuator means 82 to trigger the gas generator. The crash sensor 72 is operative for generating an air bag inflation signal upon detection of vehicle impacts or other loss of vehicle control. The triaxial accelerometer is operative for generating an air bag deflation signal as a function of motion detected along each of the three orthogonal axes of direction.

Gille's controller means 76 is operative for controlling the inflation and deflation of the inner and outer air bags. In this regard, the controller means 76 cooperatively functions with the motion sensing means 84, 86 and 88 and the

actuator means 82 for inflating the inner and outer air bags in response to the air bag inflation signal. The controller means 76 controls the deflation of at least one of the air bags in response to the air bag deflation signal. The controller means 76 preferably includes deflating means for delaying and retarding deflation of at least one of the inner and outer air bags.

Gille teaches (column 6, lines 58-65) that

> Collectively, the motion sensing means 84, 86, 88 are operable to detect linear motion in any direction. As such, the sensing means 84, 86, 88 are also operative to sense rotational motion, such as that which would occur during vehicle roll over, spinning or both. The motion sensing means 84,86,88 cooperate with the controller means 76 and the actuation means 82 to control inflation and deflation of the inflatable restraining apparatus 12.

As noted at column 7, line 5 et seq., the motion sensing means 84, 86 and 88, as well as the crash sensor 72 electrically communicate signals to the controller means 76. The crash sensor 72 conventionally functions to control the initiation of inflation of the air bags. The sensing means 84, 86 and 88 are specifically adapted to control air bag

deflation rates. The motion sensing means 84, 86 and 88 function to delay, or postpone, deflation of the inner bag thereby maintaining the inner bag in an operative condition. The duration of the delay and/or retardation may be variable, dependent on the force of impact or continued sensing of motion of the vehicle.

In operation, upon detection of a sufficient impact, the crash sensor 72 sends a signal to a controller means 76 which then sends a resulting signal to the actuator means 82, causing the inflator of the gas generator assembly to produce inflation gas such as nitrogen gas, to fill the inner and outer air bags. Gille teaches (column 7, lines 33-44) that

> When an automobile is involved in an accident which includes vehicle roll over or spinning, or both, a typical air bag system both inflates and deflates significantly before the vehicle comes to rest. The motion sensing means 84, 86 and 88 of the present invention are further operative to detect linear and/or rotational motion associated with vehicle roll over. Accordingly, the inflatable restraint system 12 is designed such that the inner air bag 14 or both air bags 14,16 of the dual air bag construction remain inflated until the vehicle ceases to roll and/or spin, thereby further protecting vehicle occupants from injury.

After reviewing the teachings of Gille and comparing those teachings to the subject matter of claim 1, we find ourselves in agreement with the appellants' position set forth in the brief (pp. 13-17) that claim 1 is not anticipated by Gille. In that regard, Gille does not disclose a rotational movement sensor for detecting rotational movements about a vertical axis of a vehicle and outputting a rotational movement signal to an evaluation circuit that receives and evaluates the rotational movement signal and acceleration signals generated by two acceleration sensors and outputs an evaluation signal to a triggering circuit for generating a triggering signal for a restraining device. In that regard, while Gille's triaxial accelerometer, including first, second and third motion sensing means 84, 86 and 88 for detecting motion along each of the X, Y and Z axes, can be used to calculate rotational movement to determine if the vehicle is spinning about a vertical axis, Gille's triaxial accelerometer is not a rotational movement sensor for detecting rotational movements about a vertical axis of a vehicle and does not output a rotational movement signal to an evaluation circuit as set forth in claim 1.

Since all the limitations of claim 1 are not disclosed in Gille for the reasons set forth above, the decision of the examiner to reject claim 1, and claims 2 to 9 dependent thereon, under 35 U.S.C. § 102(e) is reversed.

**The obviousness rejection**

We have also reviewed the reference to Damisch applied with Gille in the rejection of dependent claim 10 but find nothing therein which makes up for the deficiencies of Gille discussed above with respect to parent claim 1. Accordingly, we cannot sustain the examiner's rejection of appealed claim 10 under
35 U.S.C. § 103.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 to 10 is reversed.

REVERSED

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| IAN A. CALVERT<br>Administrative Patent Judge | ) |
| CHARLES E. FRANKFORT<br>Administrative Patent Judge | ) BOARD OF PATENT APPEALS AND INTERFERENCES |
| JEFFREY V. NASE<br>Administrative Patent Judge | ) |

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